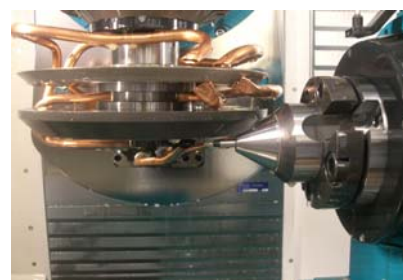
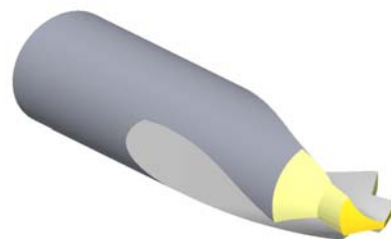


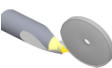
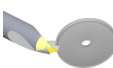
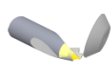

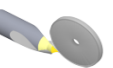
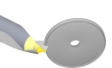
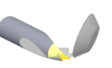







## Center Drill Ø10 Z2

A07-330

High speed grinding of Centerdrills: The below mentioned cycle considers a double sided center drill. If the flute is ground with conventional wheels (vitrified), then additional time for dressing has to be added for each 5 to 10 pieces. Dressing is also recommended when using CBN wheels, but only each 50 to 100 pieces.



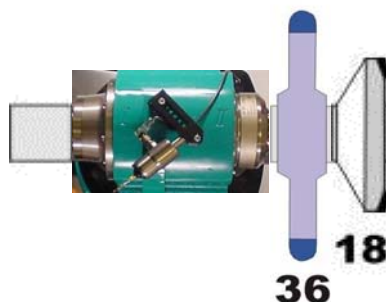
### 1. Cycletime for Production

| Tool specifications  |   |   |   |  |   |   |   |  |
|--|---|---|---|--|---|---|---|--|
| Diameter 10 mm, Z 2, Length of cutting edge 15 mm, Helix angle 15° |   |   |   |  |   |   |   |  |
| Material HSS   |   |   |   |  |   |   |   |  |
| Operations   |   |   |   |  |   |    |   |  |
| Flute  |   |   |   |  |   |   |   |  |
| Step   |   |   |   |  |   |   |   |  |
| End  |   |   |   |  |   |   |   |  |
| Return   |   |   |   |  |   |   |   |  |
| Feed [mm/Min]  | 300   | 500   | 500   | 9000   | 300   | 500   | 500   | 9000   |
| Power [kW]   | 14  | 3   | 2   | 1  | 14  | 3   | 2   | 1  |
| Cutting feed [m/s]   | 55  | 50  | 50  |  | 55  | 50  | 50  |  |
| Used wheels  |  |  |  |  |  |  |  |  |
| Grinding time [s]  | 33  | 21  | 15  | 8  | 33  | 21  | 15  | 10   |
| Total cycle time   | 2 Min 34  |   |   |  |   |   |   |  |

The mentioned cycle times are indicative. The material to be ground, different grinding wheels or other coolants can influence the cycle times considerably.

### 2. Used Grinding Wheels

|    |               |
|----|---------------|
| 36 | DXF Ø250 B126 |
| 18 | 12V2 Ø200-250 |



### 3. Machine and Software Requirements

Machines: 5 axes CNC grinders : GEMINI DMR 26kW  
 Control: Fanuc 31i  
 Coolant: Synthetic Oil, pressure 18-26 bar  
 Software: Quinto 5

responsible engineer: OP,31.10.08

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